

PHILADELPHIA INQUIRER
28 April 1985ARTICLE APPEARED
ON PAGE 5-A

Spy-satellite path a mystery

Elliptical orbit counters published reports

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Associated Press

WASHINGTON — A secret military satellite carried into space in January by the space shuttle was placed in an unusual elliptical orbit, raising questions about the satellite's mission and fate.

The questions arose Friday when the Air Force released the "orbital parameters" describing the initial path on which the secret satellite was placed. The Pentagon is required to describe the initial orbits of its satellites to the United Nations under international treaty.

The orbital path, unless it has been changed since the U.N. report was filed, would suggest that either the Pentagon has experienced some problems with the satellite or that published reports about its mission and destination were erroneous.

Most American spy satellites are launched into fairly low, circular orbits that pass across the Earth's polar regions, or else into geosynchronous orbits 22,300 miles over the equator, where the satellite matches

the Earth's rotation and actually hangs over one region of the planet.

The satellite carried into space on the space shuttle Discovery on Jan. 24, however, was placed initially in an elliptical orbit that carries it at its high point to an altitude of 21,495 miles and at its low point to only 211 miles.

Moreover, the Air Force said Friday that the satellite was placed in an orbit with a low angle above the equator — 28.4 degrees — meaning that it was not meant to circle the Earth's polar regions.

The Washington Post described the satellite on Dec. 19 as a special "military intelligence satellite that is to collect electronic signals and retransmit them to a U.S. receiving station on Earth."

Other news organizations, including the Associated Press, subsequently reported the satellite was designed to intercept radio, telephone and satellite transmissions as well as radio telemetry data from Soviet missile tests.

Those reports quoted sources as

saying the satellite was destined for a geosynchronous orbit 22,300 miles over the Soviet Union.

Efforts to determine the significance of the elliptical orbit were unsuccessful Friday. The Air Force refused to discuss any of three possible explanations, and other Pentagon officials declined to comment.

The first explanation involves the possibility that the satellite has since been shifted to a new orbit. Under international treaties, the Pentagon is required to provide a technical description of only the initial orbits of its satellites.

The Air Force, citing the need for mission security, refused to discuss whether the satellite was still in the orbit reported to the U.N.

A second possibility would be that rockets on board the satellite failed to function properly. Any satellite bound for a geosynchronous slot moves first into an elliptical orbit. When the satellite is at its high point, rocket motors are fired to stabilize the satellite at that altitude and circularize its path.